

REMARKS

The claims currently undergoing prosecution, claims 1-9, relate in general to a multibit storage cell that includes a charge storage layer formed of an insulator material incorporating embedded metal nanocrystals herein. When bias voltages are applied to the storage cell, asymmetric charging of the nanocrystals results such that the various portions of the metal nanocrystals can each be employed as an independent bit of the storage cell.

With reference to the Office Action, claims 3 and 6-9 are indicated as containing allowable subject matter. Claims 1, 2 and 5 stand rejected under 35 U.S.C. 102 as being anticipated by US 6141256 to Forbes, while claim 4 stands rejected under 35 U.S.C. 102 as being anticipated by US 6831310 to Mathew et al. Applicants respectfully traverse these rejections in view of the following arguments and comments.

The rejection of claims 1, 2 and 5 is traversed first because Forbes does not disclose the use of *metal* nanocrystals. As noted at column 6, lines 6-9 of Forbes, the floating gate 18 is formed from crystals of silicon, silicon carbide or other semiconductor material. Applicants have discovered that the use of metal nanocrystals provides a number of notable benefits over the use of semiconductors. As discussed in the published subject application in paragraphs 46-48, for example, the major advantages of metal nanocrystals over their counterpart semiconductor nanocrystals and insulator traps include higher density of states around the Fermi level, stronger coupling with the conduction channel, a wide range of available work functions and smaller energy perturbation due to carrier confinement. Further, claim 1 specifies that asymmetric charging of the nanocrystals is produced while Forbes is silent on this issue. Instead, Forbes notes that the absorption of each crystal provides a detectable step change in the drain current of

the transistor. For at least these reasons, Applicants respectfully submit that the rejection of claims 1, 2 and 5 is traversed.

The rejection of claim 4 over Mathew et al. is traversed because the effective date of Mathew et al. is after the November 26, 2002 filing date of US Provisional Application No. 60/428,906. The subject application claims priority on this provisional application and the provisional application discloses the invention recited in claim 4. Accordingly, the effective filing date of claim 4 is November 26, 2002, which predates the November 10, 2003 filing date of Mathew et al.

In view of the foregoing, Applicants respectfully submit that the claims 1-9 are patentable and allowable over the art of record. Accordingly, favorable reconsideration of the application is respectfully requested.

Respectfully submitted,

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